
II.A.4.N.a.32. PINUS PONDEROSA WOODLAND ALLIANCE

Ponderosa Pine Woodland Alliance

PINUS PONDEROSA / ARCTOSTAPHYLOS PATULA WOODLAND

Ponderosa Pine / Greenleaf Manzanita Woodland

ELEMENT CONCEPT

GLOBAL SUMMARY: This woodland association has been reported from the mountains and plateaus in Colorado, Utah and California. Elevation ranges from 1770-2600 m (5800-8500 feet). Sites are dry, warm, mid to lower slopes, benches and ridges often with southerly aspects. Soils are typically sandy loams but vary from sand to silt loam. Parent materials are sandstone, limestone and occasionally basalt and andesite. The tree canopy is typically open (about 30% cover), but can range from 10-80% cover and is dominated by *Pinus ponderosa*. Scattered *Juniperus scopulorum* trees may also be present. *Arctostaphylos patula* dominates the moderate to sparse shrub layer. Others shrub species present may include *Amelanchier utahensis*, *Ceanothus* spp., *Cercocarpus montanus*, *Mahonia repens*, *Purshia tridentata*, *Quercus gambelii*, *Symphoricarpos oreophilus*, and *Tetradymia canescens*. The sparse herbaceous layer (<20% cover) is primarily composed of graminoids such as *Carex rossii*, *Achnatherum hymenoides* (= *Oryzopsis hymenoides*), *Elymus elymoides*, *Leymus salinus* (= *Elymus salinus*), and *Poa fendleriana*. Forbs are sparse and may include *Achillea millefolium*, *Balsamorhiza sagittata*, and *Eriogonum racemosum*.

ENVIRONMENTAL DESCRIPTION

USFWS Wetland System: Not Applicable

Zion National Park Environment: This association occurs on gentle to moderate slopes of various aspects at elevations between 5600 and 8000 feet. It is found on high mesa tops, plateaus and Navajo sandstone formation benches and basins. Soil texture is sandy loam with moderate cover of pine needle duff.

Global Environment: This woodland association has been reported from the Colorado Plateau and eastern Sierra Nevada from mountains and plateaus in Colorado, Utah and California. Elevation ranges from 1770-2600m (5800-8500 feet). Sites are dry, warm, mid to lower slopes, benches and ridges often with southerly aspects. Soils are typically sandy loams but vary from sand to silt loam. Parent materials are sandstone, limestone and occasionally basalt and andesite.

VEGETATION DESCRIPTION

Zion National Park Vegetation: In this association, *Pinus ponderosa* dominates the tree canopy with 20-70% cover and heights 15-20 m. *Arctostaphylos patula* is always present with at least 10% cover. Various combinations of *Amelanchier utahensis*, *Quercus gambelii*, *Cercocarpus montanus*, *Quercus turbinella*, and *Purshia tridentata* are also present. Shrubs contribute 20-50% cover. Herbaceous cover is commonly minimal. It may be extensive when shrub cover is very low and the association occurs in a gently sloping drainage. Herbaceous species often occurring are *Heterotheca villosa*, *Elymus elymoides*, *Poa pratensis*, *Muhlenbergia pungens*, *Bouteloua gracilis*, and *Poa fendleriana*. This association is often found adjacent to *Pinus ponderosa* Slickrock Sparse Vegetation and *Cercocarpus intricatus* Slickrock Sparse Vegetation.

Global Vegetation: This woodland association is characterized by a tree canopy that is typically open (about 30% cover), but can range from 10-80% cover and is dominated by *Pinus ponderosa*. Scattered *Juniperus scopulorum* trees may also be present. *Arctostaphylos patula* dominates the moderate to sparse shrub layer. Others shrub species present may include *Amelanchier utahensis*, *Ceanothus* spp., *Cercocarpus montanus*, *Mahonia repens*, *Purshia tridentata*, *Quercus gambelii*, *Symphoricarpos oreophilus*, and *Tetradymia canescens*. The sparse herbaceous layer (<20% cover) is primarily composed of graminoids such as *Carex rossii*, *Achnatherum hymenoides* (= *Oryzopsis hymenoides*), *Elymus elymoides*, *Leymus salinus* (= *Elymus salinus*), and *Poa fendleriana*. Forbs are sparse and may include *Achillea millefolium*, *Balsamorhiza sagittata*, and *Eriogonum racemosum*.

Global Dynamics: Information not available.

MOST ABUNDANT SPECIES

Zion National Park

Stratum

TREE CANOPY

TALL SHRUB

Species

Pinus ponderosa

Arctostaphylos patula

Global

Stratum

TREE CANOPY

SHORT SHRUB

Species

Juniperus scopulorum, *Pinus ponderosa*

Arctostaphylos patula

CHARACTERISTIC SPECIES

Zion National Park

Stratum

TREE CANOPY

TALL SHRUB

tridentata, *Quercus gambelii*, *Quercus turbinella*

Species

Juniperus osteosperma, *Pinus edulis*, *Pinus ponderosa*

Amelanchier utahensis, *Arctostaphylos patula*, *Cercocarpus montanus*, *Purshia*

Global

Stratum

TREE CANOPY

SHORT SHRUB

Species

Pinus ponderosa

Arctostaphylos patula

GLOBAL SIMILAR ASSOCIATIONS:

Information not available.

GLOBAL STATUS AND CLASSIFICATION COMMENTS

Global Conservation Status Rank: G5.

Global Comments: This plant association is seral in California.

ELEMENT DISTRIBUTION

Zion National Park Range: This association is widespread at the higher elevations in Zion National Park, specifically at Langston Mountain, Horse Pasture Plateau, Lower Kolob Terrace, Dakota Hill, Jolly Gulch, and the southeast Navajo sandstone region of the park.

Global Range: This coniferous woodland association has been reported from the Colorado Plateau and eastern Sierra Nevada.

Nations: US

States/Provinces: CA? CO UT

ELEMENT SOURCES

Zion National Park Inventory Notes: Plots: RH59, RH80, 31, 44, 72, 208

Classification Confidence: 2 **Identifier:** Cegl000842

REFERENCES: Bourgeron and Engelking 1994, Driscoll et al. 1984, Graybosch and Buchanan 1983, Johnston 1987, Roberts et al. 1992, Youngblood and Mauk 1985